# D번 - Matrix Sum 24점 서브태스크

영어

| 시간 제한 | 메모리 제한 |
| --- | --- |
| 2 초 (하단 참고) | 256 MB |

## 문제

Let A be a matrix of N rows and M columns and x be an integer.

You want to count the number of sub-matrices of A whose entry-sum does not exceed x (i.e., less than or equal to x).

For instance, suppose N = M = 2 and x = 5, and let A be the following:

```
1 2
3 4
```

In this case, four sub-matrices of size 1x1 all have their (respective) entry-sum no greater than x.

The 2x1 sub-matrix that contains 1 and 3 (whose entry-sum is 1+3 = 4) and the 1x2 sub-matrix that contains 1 and 2 (whose entry-sum is 1+2 = 3) also satisfy the condition.

All other sub-matrices of A would violate this condition, and thus the answer in this example would be 6.

In another example, consider the following matrix A with N = 2, M = 3, and x = 0.

```
0 −1 −2
−3 −4 −5
```

In this case, every sub-matrix of A has its entry-sum less than or equal to 0, and therefore the answer is 18 (there are 18 sub-matrices of A).

Given N, M, x, and A as input, count the number of sub-matrices of A whose entry-sum does not exceed x.

## 입력

The first line will contain the number of test cases, T.

For each test case, the first line will contain N, M, and x separated by a whitespace.

Each of the next N lines will contain M integers separated by a whitespace.

## 출력

Output the number of sub-matrices of A whose entry-sum is less than or equal to x.

## 제한

- 1 ≤ T ≤ 10
- -1,000,000,000 ≤ x ≤ 1,000,000,000
- -100,000 ≤ each entry of A ≤ 100,000

## 서브태스크 1 (6점)

- 1 ≤ N ≤ 50
- 1 ≤ M ≤ 50

## 서브태스크 2 (18점)

- 1 ≤ N ≤ 300
- 1 ≤ M ≤ 150

## 예제 입력 1 복사

```
4
2 2 5
1 2
3 4
2 3 0
0 -1 -2
-3 -4 -5
4 1 3
1
2
1
2
3 3 1
10 10 10
10 -100 10
10 10 10
```

## 예제 출력 1 복사

```
6
18
7
16
```

Case 1 and Case 2 are discussed in the problem statement.

Case 3:

The four 1x1 sub-matrices count. The three 2x1 sub-matrices that contain one 1 and one 2 also count. The answer is 7.

Case 4:

For a sub-matrix to have its entry-sum no greater than 1, it must contain -100. Every sub-matrix that contains -100 would satisfy the condition, so the answer is 16.

## 시간 제한 안내

아래 적혀있지 않은 시간 제한은 언어 도움말 (/help/language)에 적혀있는 기준을 따른다.

- Java: 3초
- Python 3: 8초
- PyPy3: 8초

## 채점

- 예제는 채점하지 않는다.